UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R037XA005NM

Site Name: Salt Flats

Precipitation or Climate Zone: 7 to 10 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs on plateaus, mesas, and upland valley bottoms. It usually receives additional moisture from adjacent uplands. The site is usually dissected by drainageways, which often erode quite readily when the vegetation has deteriorated, leaving a relatively deep arroyo with almost vertical banks. Slopes are level to moderately sloping, ranging from 0 to 8 percent. Elevations are from 5,000 to 6,400 feet above sea level.

Land Form:

1. Mesa
2. Valley floor
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	5,000	6,400
Slope (percent)	0	8
Water Table Depth (inches)	N/A	N/A

Flooding:	**Minimum**	**Maximum**
Frequency	Rare	Frequent
Duration	Very brief	Brief

Ponding:	**Minimum**	**Maximum**
Depth (inches)	?	?
Frequency	Rare	Frequent
Duration	Very brief	Brief

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

This site has an arid, mild, dry climate with distinct seasonal temperature variations and large annual and diurnal temperature changes.

Mean annual precipitation varies from 7 to 10 inches. Deviations of 4 inches or more are quite common. Distribution is 65 percent during the native plant growth period, which is from April through September. May and June are the dry months. During July, August, and September, 3.5 inches of precipitation influences the presence and production of warm-season plants. Late fall and winter moisture is conducive to the production of cool-season plants, which usually begin growth in March and end with plant maturity and seed dissemination. This usually takes place in the early part of June when the moisture deficiency and warmer temperatures occur. The Gulf of Mexico is the principal source of moisture for summer precipitation, which is characterized by brief afternoon thunderstorms. Winter moisture occurs as light rain or snow.

Temperatures vary from a mean monthly of 75 degrees F in July to 27 degrees F in January. From a maximum of 106 degrees F to a minimum of 35 degrees F below zero. The average last killing frost in the spring is May 8, and the first killing frost in the fall is October 10. The frost-free season is approximately 160 days. Temperatures are conducive for native grass and forb growth from April through September. Maximum shrub growth occurs in the spring months.

The wind blows most frequently from an easterly direction, however, a majority of the stronger winds (10 to 25 miles per hour) are from a westerly quadrant. Spring is the windiest season. Average hourly wind velocities are near 6 mile per hour. Spring and summer winds increase transpiration rates of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface and often results in structural damage to native plants, especially young seedlings.

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	114	151
Freeze-free period (days):	143	177
Mean annual precipitation (inches):	7	10

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.46	.70	12.7	43.1
February	.46	.74	18.4	50.8
March	.54	.70	22.7	60.4
April	.42	.56	29.3	70.0
May	.38	.62	37.6	79.5
June	.29	.68	46.6	90.0
July	.68	1.46	54.8	94.6
August	.79	1.83	53.1	91.8
September	.80	1.13	44.3	85.6
October	.78	1.30	31.7	72.4
November	.52	.68	20.9	56.3
December	.54	.64	12.8	46.6

Climate Stations:

				Period		
Station ID	291647	Location	Chaco Canyon Natl. Monument, NM	From: 06/01/22	To:	12/31/01
Station ID	293134	Location	Farmington 3NE, NM	From: 1971	To:	2000
Station ID	293340	Location	Fruitland 2E, NM	From: 01/01/14	To:	12/31/01
Station ID	296465	Location	Otis, NM	From: 02/01/14	To:	12/31/01
Station ID	298284	Location	Shiprock, NM	From: 08/01/26	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils in this site are generally deep, except for Huerfano, which is shallow. They are well drained and sodium affected. They have thin light-colored surfaces with texture ranging from very fine sandy loam to silty clay loam about 2 inches thick. The subsoil is clay loam and clay. The substratum textures are sandy clay loam, clay loam and clay. Depth to sedimentary rock ranges from 10 to 60 inches or more.

The soils formed in material weathered from shale and sandstone. Water intake rate is slow to very slow. Permeability is moderately slow to very slow. Roots penetration is restricted by the sodium content. Available water-holding capacity is 1.2 to 7.65 inches in a 5-foot profile. Potential wind and water erosion is high.

Parent Material Kind: Marine deposits
Parent Material Origin: Gypsum

Surface Texture:

1. Clay loam
2. Fine sandy loam
3. Silty clay
4. Very fine sandy loam
5. Silty clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Clayey
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 0 to 25
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Impermeable	Slow
Depth (inches):	10	>72
Electrical Conductivity (mmhos/cm):	0.00	16.00
Sodium Absorption Ratio:	0.00	30.00
Soil Reaction (1:1 Water):	7.4	9.7
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	0	9
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
The aspect of vegetation on this site is a shrub, grass mixture characterized by short and mid-grasses. Shrubs are quite noticeable. Perennial forbs are a minor component of the plant community. Annual forbs and grasses occur in relative abundance during spring months in years of above average growing conditions.

Canopy Cover:	
Trees and shrubs	15 %
Ground Cover (Average Percent of Surface Area).	
Grasses & Forbs	10
Bare ground	60
Surface gravel	0
Surface cobble and stone	5
Litter (percent)	10
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	240	420	600
Forb	40	70	100
Tree/Shrub/Vine	120	210	300
Lichen			
Moss			
Microbiotic Crusts			
Total	400	700	1,000

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	SPAI	Alkali Sacaton	140 – 175	140 – 175
2	PASM	Western Wheatgrass	35 – 70	35 – 70
3	SPCO4 SPCR	Spike Dropseed Sand Dropseed	21 – 35	21 – 35
4	ARIST	Threeawn spp.	21 – 35	21 – 35
5	PLJA	Galleta	105 – 140	105 – 140
6	HECO26	Needleandthread	21 – 70	21 – 70
7	ACHY	Indian Ricegrass	35 – 70	35 – 70
8	BOGR2	Blue Grama	35 – 70	35 – 70
9	DISP	Desert Saltgrass (Inland)	70 – 105	70 – 105

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	DESO2 ALOC2 SENEC	Tansymustard Iodinebush Groundsel spp.	21 – 35	21 – 35
11	PLPA2 AMPS	Wooly Indianwheat Western Ragweed	21 – 35	21 - 35

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
12	SAVE4	Black Greasewood	35 – 70	35 – 70
13	ATCA2	Fourwing Saltbush	70 – 105	70 – 105
14	ATCO	Shadscale	35 – 70	35 – 70
15	KRLA2	Winterfat	21 – 35	21 – 35
16	ARTR2	Big Sagebrush	21 – 35	21 – 35
17	CHVI8	Douglas Rabbitbrush	21 – 35	21 – 35
18	ARNO4	Black Sagebrush	21 – 35	21 – 35
19	GUSA2 OPSP2	Broom Snakeweed Cholla	21 – 35	21 - 35

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group	Scientific		Species Annual	Group Annual

Number	Plant Symbol	Common Name	Production	Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Additional plants which usually grow on this site in varying amounts, dependent on current growing season conditions, are: fluffgrass, annual bromes, Rocky Mountain beeplant, verbena, sunflowers, cocklebur, pricklypear cacti, saltcedar, mat muhly, Russian thistle and sixweeks fescue.

Plant Growth Curves

Growth Curve ID **0905NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **A mixed short/mid-grass and shrub land with a minor forb component.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	5	7	10	10	25	30	10	3	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This ecological site provides habitats, which support a resident animal community that is characterized by pronghorn antelope, coyote, desert cottontail, Botta's pocket gopher, deer mouse, raven, scaled quail, house finch, western spadefoot toad and prairie rattlesnake. The loggerhead shrike and mockingbird are summer residents of this site.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Canyada	?
Elias	?
Huerfano	?
Lybrook	?
Muff	?
Notal	?
Sparank	?
Tasaya	?
Tsosie	?
Uffens	?

Recreational Uses:

No Data

Wood Products:

No Data

Other Products:

Grazing:

This site is well suited for grazing use, when grazed within its capabilities, by cattle, sheep, horses, antelope, deer and burros.

Under the pressure of uncontrolled grazing, the potential plant community deteriorates, there is marked increase in relative abundance of shrubs, cacti, perennial and annual forbs. In severe deterioration, the site will consist dominantly of shrubs, annual forbs and annual grasses, with lesser amounts of perennial grasses and large areas of unprotected soils.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	5.0 – 9.0
75 – 51	6.0 – 11.0
50 – 26	9.0 – 18.0
25 – 0	18.0+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Alkali Sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	U	U	U	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D

Animal Kind: Livestock
Animal Type: Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Alkali Sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	U	U	U	D
Western Wheatgrass	Pascopyrum smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	P	P	P	P	P	P	P
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Needleandthread	Hesperostipa comata	EP	D	D	P	P	P	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Alkali Sacaton	Sporobolus airoides	EP	U	U	U	U	U	D	D	D	U	U	U	U
Western Wheatgrass	Pascopyrum smithii	EP	U	U	D	D	D	D	D	D	D	D	D	U
Blue Grama	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Fourwing Saltbush	Atriplex canescens	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Indian Ricegrass	Achnatherum hymenoides	EP	P	P	P	P	P	D	D	D	D	D	D	P
Sand Dropseed	Sporobolus cryptandrus	EP	U	U	U	U	D	D	D	U	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites:

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **San Juan**

Latitude:

Longitude:

Township: **31 N**

Range: **13 W**

Section: **12**

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: **A typical pedon of Uffens fine sandy loam, in San Juan County, New Mexico, 1,587 feet south, 1,670 feet west of the northeast corner of section 12, T. 31 N., R. 13 W.**

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the San Juan River Valley, Mesas and Plateaus 37 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys : San Juan, McKinley.

Characteristic Soils Are:	
Huerfano, Notal, Tasaya, Uffens	
Other Soils included are:	
Canyada,Elias, Lybrook, Muff, Sparank	Tsosie, Wet Spots

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	03/07/79	Don Sylvester	03/07/79

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	07/08/02	George Chavez	2/12/03